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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/081,201

02/25/2002

Kazumi Yamada

TSM-20

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7590

12/12/2005

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EXAMINER

THOMPSON, JAMES A

ART UNIT

PAPER NUMBER

2624

DATE MAILED: 12/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/081,201	Applicant(s) YAMADA, KAZUMI	
	Examiner James A. Thompson	Art Unit 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 25 February 2002.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>2/25/02</u> . | 6) <input type="checkbox"/> Other: _____  |

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DETAILED ACTION

*Priority*

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

*Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 10-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 10, 11, 14 and 15 are independent claims which use functional language to define a claimed device. In other words, the recitation of said independent claims attempt to define their respective devices by what they do, not what they are. Since claims 10, 11, 14 and 15 are device claims, but do not provide a physical structure for the device, Applicant has failed to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. See MPEP §2173.05(g). Claims 12, 13 and 16 each depend from at least one of said independent claims, and are thus also rejected under 35 USC §112, 2<sup>nd</sup> paragraph.

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***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

- . A person shall be entitled to a patent unless -
  - (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-3, 5-8, 10-11 and 13-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Oryo (US Patent 5,745,263).

Regarding claim 1: Oryo discloses a printer (figure 10 of Oryo) comprising color converting means (figure 10(51) and column 6, line 64 to column 7, line 4 of Oryo) for converting a first color component signal ( $L_i, C_i, H_i$ ) based on the thus read original into a second color component signal ( $L_o, C_o, H_o$ ) for printing (column 4, line 65 to column 5, line 9 of Oryo) by referring to a lookup table (figure 10(53(portion)) and column 6, line 65 to column 7, line 4 of Oryo), wherein said lookup table is formed so that the second color component represents black when each of the color signals constituting the first color component signal is in the range from a value indicating the deepest color state to a predetermined value ( $L_s$ ) (figure 7 ( $L_s$ ); column 3, lines 42-46; and column 4, lines 39-40 of Oryo). A portion of the RAM (figure 10(53) of Oryo) is used to store the input/output characteristics based on a previous measurement (column 6, line 65 to column 7, line 64 of Oryo) (a typographical error in Oryo refers to the RAM as "ROM"). Since  $L_s$  is set as the lower limit of lightness (column 3, lines 42-46 and column 4, lines 39-40 of Oryo), any value less than  $L_s$  will

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necessarily be black.  $L_s$  is set as a predetermined value (column 4, line 65 to column 5, line 1 of Oryo).

**Regarding claim 2:** Oryo discloses a printer (figure 10 of Oryo) comprising color converting means (figure 10(51) and column 6, line 64 to column 7, line 4 of Oryo) for converting a first color component signal ( $L_i, C_i, H_i$ ) based on the original thus read into a second color component signal ( $L_o, C_o, H_o$ ) for printing (column 4, line 65 to column 5, line 9 of Oryo) by referring to a lookup table (figure 10(53) and column 6, line 65 to column 7, line 4 of Oryo), wherein said lookup table is formed so that the second color component represents white when each of the color signals constituting the first color component signal is in the range from a value indicating the lightest color state to a predetermined value ( $L_t$ ) (figure 7( $L_t$ ); column 3, lines 42-46; and column 4, lines 39-40 of Oryo). The RAM (figure 10(53) of Oryo) stores the input/output characteristics based on a previous measurement (column 6, line 65 to column 7, line 64 of Oryo) (a typographical error in Oryo refers to the RAM as "ROM"). Since  $L_t$  is set as the upper limit of lightness (column 3, lines 42-46 and column 4, lines 39-40 of Oryo), any value greater than  $L_t$  will necessarily be white.  $L_t$  is set as a predetermined value (column 4, line 65 to column 5, line 1 of Oryo).

**Regarding claims 3/1-3/2:** Oryo discloses that the first color component signal ( $L_i, C_i, H_i$ ) and the second color component signal ( $L_o, C_o, H_o$ ) are constructed by plural signals indicating colors (column 4, lines 53-57 of Oryo).

**Regarding claim 5:** Oryo discloses that said lookup table has grids (data element entries stored in RAM) set to be non-equidistant (column 3, lines 35-42 and column 6, lines 15-21 of

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Oryo), and in the vicinity of a portion where said first color component signal indicates the deepest color state ( $L_s$ ), the distance between the grids is set to be large (figure 7 and column 3, lines 35-42 of Oryo).

**Regarding claim 6:** Oryo discloses that said lookup table is expressed by grids (data element entries stored in RAM) including discontinuous values (column 3, lines 35-42 of Oryo); and said grids are set to be non-equidistant (column 3, lines 35-42 and column 6, lines 15-21 of Oryo), in the vicinity of a portion where each of color signals constituting the first color component signal indicates the deepest color state ( $L_s$ ), is set to be wide (figure 7 and column 3, lines 35-42 of Oryo).

**Regarding claim 7:** Oryo discloses that said lookup table is expressed by grids (data element entries stored in RAM) including discontinuous values (column 3, lines 35-42 of Oryo); and said grids are set to be non-equidistant (column 3, lines 35-42 and column 6, lines 15-21 of Oryo), in the vicinity of a portion where each of color signals constituting the first color component signal indicates the lightest color state ( $L_t$ ), is set to be wide (figure 7 and column 3, lines 35-42 of Oryo).

**Regarding claim 8:** Oryo discloses that said color converting means has a second lookup table (figure 10(53 (portion)) and column 6, line 65 to column 7, line 4 of Oryo) different from said lookup table (column 4, line 65 to column 5, line 5 of Oryo), and converts the first color component signal based on the read-out original to the second color component signal used for printing by selectively referring to any one of said lookup table and said second lookup table (column 5, lines 1-9 of Oryo). Two separate lookup tables, which are used to convert an input color space to an output color space, are

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stored in RAM (figure 10(53) and column 6, line 65 to column 7, line 4 of Oryo). One lookup table is the start state lookup table that is used to directly convert the input color component signals to output color component signals if the input color component signals lie within the color expression range of the output color printer (column 4, line 65 to column 5, line 5 of Oryo). A second lookup table is the lookup table that is generated when the input color component signals lie outside of the color expression range of the output color printer (column 5, lines 1-9 of Oryo).

**Regarding claim 10:** Oryo discloses a color converting device (figure 10 of Oryo) for converting a subject color ( $L_i, C_i, H_i$ ) for conversion comprising a combination of color signals to a target color ( $L_o, C_o, H_o$ ) comprising a combination of color signals (column 4, line 65 to column 5, line 9 of Oryo), wherein each of the color signals of the subject color is in the range from a value indicating the deepest color state to a predetermined value ( $L_s$ ), color conversion is carried out by using a lookup table formed in order that the target color is to be black (figure 7( $L_s$ ); column 3, lines 42-46; and column 4, lines 39-40 of Oryo).

**Regarding claim 11:** Oryo discloses a color converting device (figure 10 of Oryo) for converting a subject color ( $L_i, C_i, H_i$ ) for conversion comprising a combination of color signals to a target color ( $L_o, C_o, H_o$ ) comprising a combination of color signals (column 4, line 65 to column 5, line 9 of Oryo), wherein each of the color signals of the subject color is in the range from a value indicating the lightest color state to a predetermined value ( $L_t$ ), color conversion is carried out by using a lookup table formed in order that the target color is to

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be white (figure 7( $L_t$ ); column 3, lines 42-46; and column 4, lines 39-40 of Oryo).

**Regarding claims 13/10-13/11:** Oryo discloses that said lookup table is expressed by grids (data element entries stored in RAM) including discontinuous values (column 3, lines 35-42 of Oryo); and said grids are set to be non-equidistant (column 3, lines 35-42 and column 6, lines 15-21 of Oryo), and grids in a portion where the target color indicates black (figure 7( $L_s$ ) of Oryo) and grids in a portion where the target color indicates white (figure 7( $L_t$ ) of Oryo), have a larger distance than grids in other portions (figure 7 and column 3, lines 35-42 of Oryo).

**Regarding claim 14:** Oryo discloses a color converting device (figure 10 of Oryo) for converting a subject color ( $L_i, C_i, H_i$ ) for conversion comprising a combination of color signals to a target color ( $L_o, C_o, H_o$ ) comprising a combination of color signals (column 4, line 65 to column 5, line 9 of Oryo), wherein color conversion is carried out so that the target color is to be black when each of the color signals constituting the subject color is in the range from a value indicating the deepest color state to a predetermined value (figure 7( $L_s$ ); column 3, lines 42-46; and column 4, lines 39-40 of Oryo).

**Regarding claim 15:** Oryo discloses a color converting device (figure 10 of Oryo) for converting a subject color ( $L_i, C_i, H_i$ ) for conversion comprising a combination of color signals to a target color ( $L_o, C_o, H_o$ ) comprising a combination of color signals (column 4, line 65 to column 5, line 9 of Oryo), wherein color conversion is carried out so that the target color is to be white when each of the color signals constituting the subject color is in the range from a value indicating the



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lightest color state to a predetermined value (figure 7(L<sub>t</sub>); column 3, lines 42-46; and column 4, lines 39-40 of Oryo).

Regarding claim 16/14-16/15: Oryo discloses that the color conversion is carried out by referring to a lookup table (figure 10(53) of Oryo) predetermined with respect to correspondence between the color signal combination of the subject color and the color signal combination of the target color (column 4, line 65 to column 5, line 5 of Oryo).

*Claim Rejections - 35 USC § 103*

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 4 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oryo (US Patent 5,745,263) in view of Lin (US Patent 6,185,004 B1).

Regarding claims 4/1-4/2: Oryo does not disclose expressly that the first color component signal is a RGB signal, and the second color component signal is a CMYK signal.

Lin discloses an input color component signal which is a RGB signal (column 5, lines 46-47 and column 6, lines 3-8 of Lin) and an output color component signal which is a CMYK signal (column 5, line 57 and column 6, lines 13-16 of Lin).

Oryo and Lin are combinable because they are from the same field of endeavor, namely color space conversion of digital

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image data for a variety of input devices and output devices. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to specifically use a RGB color space for the input device and a CMYK color space for the output device. The suggestion for doing so would have been digital scanners and digital cameras, which typically use a RGB color space, are common forms of input devices (column 5, lines 46-47 of Lin) and color printers, which typically use a CMYK color space, are commonly used as output devices. Therefore, it would have been obvious to combine Lin with Oryo to obtain the invention as specified in claims 4/1-4/2.

**Regarding claims 12/10-12/11:** Oryo does not disclose expressly that the subject color for conversion is constructed by RGB, and the target color is constructed by CMYK.

Lin discloses an input color component signal which is a RGB signal (column 5, lines 46-47 and column 6, lines 3-8 of Lin) and an output color component signal which is a CMYK signal (column 5, line 57 and column 6, lines 13-16 of Lin).

Oryo and Lin are combinable because they are from the same field of endeavor, namely color space conversion of digital image data for a variety of input devices and output devices. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to specifically use a RGB color space for the input device (and thus subject color) and a CMYK color space for the output device (and thus target color). The suggestion for doing so would have been digital scanners and digital cameras, which typically use a RGB color space, are common forms of input devices (column 5, lines 46-47 of Lin) and color printers, which typically use a CMYK color space, are commonly used as output devices. Therefore, it would have been

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obvious to combine Lin with Oryo to obtain the invention as specified in claims 12/10-12/11.

8. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Oryo (US Patent 5,745,263) in view of Lee (US Patent 5,012,333).

**Regarding claim 9:** Oryo does not disclose expressly that said color converting means selects any one of said lookup table and said second lookup table in accordance with a user's setting.

Lee discloses user selection of color conversion processing (figure 5 and column 9, lines 54-65 of Lee).

Oryo and Lee are combinable because they are from the same field of endeavor, namely digital color image data processing and alteration. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to perform the selection of either the lookup table or second lookup table for color conversion, as taught by Oryo, by way of user selection and setting, as taught by Lee. The motivation for doing so would have been to allow a user to interactively make desired adjustments to the resultant image (column 4, lines 43-49 of Lee). Therefore, it would have been obvious to combine Lee with Oryo to obtain the invention as specified in claim 9.

### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Yee S. Ng, US Patent 5,185,661, Patented 09 February 1993, Filed 19 September 1991.

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- b. Spaulding et al., US Patent 5,553,199, Patented 03 September 1996, Filed 03 May 1994.
- c. Shirasawa et al., US Patent 5,689,590, Patented 18 November 1997, Filed 19 May 1995.
- d. Ogatsu et al., US Patent 5,724,442, Patented 03 March 1998, Filed 19 April 1995.
- e. Wan et al., US Patent 5,731,818, Patented 24 March 1998, Filed 04 March 1996.
- f. Narahara et al., US Patent 5,850,298, Patented 15 December 1998, Filed 18 June 1997.
- g. Ron J. Karidi, US Patent Application Publication 2003/0193680 A1, Published 16 October 2003, Filed 02 May 2003, Continuation of application filed 18 May 1999.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James A. Thompson whose telephone number is 571-272-7441. The examiner can normally be reached on 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K. Moore can be reached on 571-272-7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



01 December 2005

James A. Thompson  
Examiner  
Art Unit 2624



THOMAS D. LEE  
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